

than the other. Both are fully developed up to date ; the unsegmented brain being carried over the front of the head fold producing the mitriform appearance. The (optical) right neural fold of the right head is continued back along the common trunk, and so the left neural fold of the left head. The adjacent neural folds can only be traced to the level of the point of divergence of the fork, and seem to meet as they thin out. They are quite wanting in the trunk.

There are eight rows of mesoblastic somites with definite outlines, and traces of others can be discerned. The outer row on each side is normal, and close to the corresponding neural fold. The two inner rows have fused to form compound median somites, which have double the width of the single outer ones. The hinder part of the primitive streak is double, the two divisions running outwards at right angles to the main axis of the embryo. The vascular area and the primitive heart seem to be quite simple. The specimen was mounted as a whole, and I am unable to distinguish the hypoblastic structures.

The double form may have been produced in two ways. The product of a single germinal vesicle may have undergone a certain amount of longitudinal dehiscence, or the products of two germinal vesicles may have partially fused in the growth side by side, on a yolk originally common to both, or formed by union of the two yolks. The process, whichever it has been, has affected all the three germinal layers at the two extremities, where the separation of the two embryos is complete. In the region of the somites, the somatopleure is distinctly divided into two equal longitudinal halves, which have remained in juxtaposition ; the splanchnopleure does not show any signs of fission.

I do not think that there is any evidence upon which we can decide in which of the two ways the doubling has been brought about, but it is plain that the cause must have been deep-seated, and must be looked for in far earlier stages.

(2) *On the Formation of a Double Embryo in the Hen's-egg.*

By PROFESSOR W. BALDWIN SPENCER, M.A.

Whilst working in the Biological Laboratory of the Melbourne University, one, amongst a large number of hens' eggs incubated, was found to present the curious feature of having two clearly-formed embryos developed within the limits of the one blastoderm. As this is by no means of common occurrence, and as the embryos were quite distinct, and developed to a considerable extent, it has been thought worth while to figure them (Pl. VI, fig. 2). Wolff, Reichert, Thompson, and others have previously shown that this may take place, and a figure showing two chick embryos distinct from one another, is given by the latter investigator.* In this case two embryos, of a very early stage, each showing what is probably meant for the primitive groove, are seen lying side by side, with their anterior ends close together. They are not sufficiently developed to show traces as yet of mesoblastic somites or nervous system. The anterior ends of the two are closely approximated, whilst the posterior ends diverge from one another. In the embryos figured by myself, the blastodermic area is somewhat elongated in the direction corresponding to that of the short axis of the egg; the area pellucida and the area opaca are clearly distinguishable from each other and the latter is covered with a complete network of blood-vessels, limited externally by the sinus terminalis. The two embryos are so placed that their anterior ends lie side by side in the middle of the area pellucida, whilst their posterior ends are directed towards the two opposite ends of the area. The two embryos are precisely similar to one another. Each has reached the stage at which the nervous system has the form of a tube, the anterior end of which is becoming swollen out to form the vesicles of the brain, though these are not as yet clearly differentiated. At the posterior end of the body the neural canal is still widely open, and encloses the remnant of the primitive streak and groove. The head-fold has lifted the

* I am indebted to Professor Allen, M.D., of the Melbourne University, for the opportunity of seeing this. It is to be found in "Todd's Cyclopædia of Anatomy and Physiology," under the article "Teratology."